

Environmental Protection Agency

§ 51.100

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AUTHORITY: 42 U.S.C. 7401, 7411, 7412, 7413, 7414, 7470-7479, 7501-7508, 7601, and 7602.

SOURCE: 36 FR 22398, Nov. 25, 1971, unless otherwise noted.

Subparts A-E [Reserved]

Subpart F—Procedural Requirements

SOURCE: 51 FR 40661, Nov. 7, 1986, unless otherwise noted.

§ 51.100 Definitions.

As used in this part, all terms not defined herein will have the meaning given them in the Act:

(a) *Act* means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Pub. L. 91-604, 84 Stat. 1676 Pub. L. 95-95, 91 Stat., 685 and Pub. L. 95-190, 91 Stat., 1399.)

(b) *Administrator* means the Administrator of the Environmental Protection Agency (EPA) or an authorized representative.

(c) *Primary standard* means a national primary ambient air quality standard promulgated pursuant to section 109 of the Act.

(d) *Secondary standard* means a national secondary ambient air quality standard promulgated pursuant to section 109 of the Act.

(e) *National standard* means either a primary or secondary standard.

(f) *Owner or operator* means any person who owns, leases, operates, controls, or supervises a facility, building, structure, or installation which directly or indirectly result or may result in emissions of any air pollutant for which a national standard is in effect.

(g) *Local agency* means any local government agency other than the State agency, which is charged with responsibility for carrying out a portion of the plan.

(h) *Regional Office* means one of the ten (10) EPA Regional Offices.

(i) *State agency* means the air pollution control agency primarily responsible for development and implementation of a plan under the Act.

(j) *Plan* means an implementation plan approved or promulgated under section 110 of 172 of the Act.

(k) *Point source* means the following:

(1) For particulate matter, sulfur oxides, carbon monoxide, volatile organic compounds (VOC) and nitrogen dioxide—

(i) Any stationary source the actual emissions of which are in excess of 90.7 metric tons (100 tons) per year of the pollutant in a region containing an area whose 1980 *urban place* population, as defined by the U.S. Bureau of the Census, was equal to or greater than 1 million.

(ii) Any stationary source the actual emissions of which are in excess of 22.7 metric tons (25 tons) per year of the pollutant in a region containing an area whose 1980 *urban place* population, as defined by the U.S. Bureau of the Census, was less than 1 million; or

(2) For lead or lead compounds measured as elemental lead, any stationary

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source that actually emits a total of 4.5 metric tons (5 tons) per year or more.

(l) *Area source* means any small residential, governmental, institutional, commercial, or industrial fuel combustion operations; onsite solid waste disposal facility; motor vehicles, aircraft vessels, or other transportation facilities or other miscellaneous sources identified through inventory techniques similar to those described in the "AEROS Manual series, Vol. II AEROS User's Manual," EPA-450/2-76-029 December 1976.

(m) *Region* means an area designated as an air quality control region (AQCR) under section 107(c) of the Act.

(n) *Control strategy* means a combination of measures designated to achieve the aggregate reduction of emissions necessary for attainment and maintenance of national standards including, but not limited to, measures such as:

(1) Emission limitations.

(2) Federal or State emission charges or taxes or other economic incentives or disincentives.

(3) Closing or relocation of residential, commercial, or industrial facilities.

(4) Changes in schedules or methods of operation of commercial or industrial facilities or transportation systems, including, but not limited to, short-term changes made in accordance with standby plans.

(5) Periodic inspection and testing of motor vehicle emission control systems, at such time as the Administrator determines that such programs are feasible and practicable.

(6) Emission control measures applicable to in-use motor vehicles, including, but not limited to, measures such as mandatory maintenance, installation of emission control devices, and conversion to gaseous fuels.

(7) Any transportation control measure including those transportation measures listed in section 108(f) of the Clean Air Act as amended.

(8) Any variation of, or alternative to any measure delineated herein.

(9) Control or prohibition of a fuel or fuel additive used in motor vehicles, if such control or prohibition is necessary to achieve a national primary or secondary air quality standard and is

approved by the Administrator under section 211(c)(4)(C) of the Act.

(o) *Reasonably available control technology (RACT)* means devices, systems, process modifications, or other apparatus or techniques that are reasonably available taking into account:

(1) The necessity of imposing such controls in order to attain and maintain a national ambient air quality standard;

(2) The social, environmental, and economic impact of such controls; and

(3) Alternative means of providing for attainment and maintenance of such standard. (This provision defines RACT for the purposes of §§ 51.110(c)(2) and 51.341(b) only.)

(p) *Compliance schedule* means the date or dates by which a source or category of sources is required to comply with specific emission limitations contained in an implementation plan and with any increments of progress toward such compliance.

(q) *Increments of progress* means steps toward compliance which will be taken by a specific source, including:

(1) Date of submittal of the source's final control plan to the appropriate air pollution control agency;

(2) Date by which contracts for emission control systems or process modifications will be awarded; or date by which orders will be issued for the purchase of component parts to accomplish emission control or process modification;

(3) Date of initiation of on-site construction or installation of emission control equipment or process change;

(4) Date by which on-site construction or installation of emission control equipment or process modification is to be completed; and

(5) Date by which final compliance is to be achieved.

(r) *Transportation control measure* means any measure that is directed toward reducing emissions of air pollutants from transportation sources. Such measures include, but are not limited to, those listed in section 108(f) of the Clean Air Act.

(s) *Volatile organic compounds (VOC)* means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,

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which participates in atmospheric photochemical reactions.

(1) This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity: methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123); 1,1,1,2-tetrafluoroethane (HFC-134a); 1,1-dichloro 1-fluoroethane (HCFC-141b); 1-chloro 1,1-difluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes; acetone; perchloroethylene (tetrachloroethylene); 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca); 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb); 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee); and perfluorocarbon compounds which fall into these classes:

- (i) Cyclic, branched, or linear, completely fluorinated alkanes,
- (ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations,
- (iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations, and
- (iv) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(2) For purposes of determining compliance with emissions limits, VOC will be measured by the test methods in the approved State implementation plan (SIP) or 40 CFR part 60, appendix A, as applicable. Where such a method also measures compounds with negligible photochemical reactivity, these negligibility-reactive compounds may

be excluded as VOC if the amount of such compounds is accurately quantified, and such exclusion is approved by the enforcement authority.

(3) As a precondition to excluding these compounds as VOC or at any time thereafter, the enforcement authority may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the enforcement authority, the amount of negligibly-reactive compounds in the source's emissions.

(4) For purposes of Federal enforcement for a specific source, the EPA shall use the test methods specified in the applicable EPA-approved SIP, in a permit issued pursuant to a program approved or promulgated under title V of the Act, or under 40 CFR part 51, subpart I or appendix S, or under 40 CFR parts 52 or 60. The EPA shall not be bound by any State determination as to appropriate methods for testing or monitoring negligibly-reactive compounds if such determination is not reflected in any of the above provisions.

(t)-(w) [Reserved]

(x) *Time period* means any period of time designated by hour, month, season, calendar year, averaging time, or other suitable characteristics, for which ambient air quality is estimated.

(y) *Variance* means the temporary deferral of a final compliance date for an individual source subject to an approved regulation, or a temporary change to an approved regulation as it applies to an individual source.

(z) *Emission limitation and emission standard* mean a requirement established by a State, local government, or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction.

(aa) *Capacity factor* means the ratio of the average load on a machine or equipment for the period of time considered to the capacity rating of the machine or equipment.

(bb) *Excess emissions* means emissions of an air pollutant in excess of an emission standard.

(cc) *Nitric acid plant* means any facility producing nitric acid 30 to 70 percent in strength by either the pressure or atmospheric pressure process.

(dd) *Sulfuric acid plant* means any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(ee) *Fossil fuel-fired steam generator* means a furnace or boiler used in the process of burning fossil fuel for the primary purpose of producing steam by heat transfer.

(ff) *Stack* means any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct but not including flares.

(gg) *A stack in existence* means that the owner or operator had (1) begun, or caused to begin, a continuous program of physical on-site construction of the stack or (2) entered into binding agreements or contractual obligations, which could not be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the stack to be completed within a reasonable time.

(hh)(1) *Dispersion technique* means any technique which attempts to affect the concentration of a pollutant in the ambient air by:

(i) Using that portion of a stack which exceeds good engineering practice stack height;

(ii) Varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant; or

(iii) Increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, or combining exhaust gases from several existing stacks into one stack; or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise.

(2) The preceding sentence does not include:

(i) The reheating of a gas stream, following use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream;

(ii) The merging of exhaust gas streams where:

(A) The source owner or operator demonstrates that the facility was originally designed and constructed with such merged gas streams;

(B) After July 8, 1985 such merging is part of a change in operation at the facility that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a pollutant. This exclusion from the definition of *dispersion techniques* shall apply only to the emission limitation for the pollutant affected by such change in operation; or

(C) Before July 8, 1985, such merging was part of a change in operation at the facility that included the installation of emissions control equipment or was carried out for sound economic or engineering reasons. Where there was an increase in the emission limitation or, in the event that no emission limitation was in existence prior to the merging, an increase in the quantity of pollutants actually emitted prior to the merging, the reviewing agency shall presume that merging was significantly motivated by an intent to gain emissions credit for greater dispersion. Absent a demonstration by the source owner or operator that merging was not significantly motivated by such intent, the reviewing agency shall deny credit for the effects of such merging in calculating the allowable emissions for the source;

(iii) Smoke management in agricultural or silvicultural prescribed burning programs;

(iv) Episodic restrictions on residential woodburning and open burning; or

(v) Techniques under § 51.100(hh)(1)(iii) which increase final exhaust gas plume rise where the resulting allowable emissions of sulfur dioxide from the facility do not exceed 5,000 tons per year.

(ii) *Good engineering practice (GEP)* stack height means the greater of:

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(1) 65 meters, measured from the ground-level elevation at the base of the stack:

(2)(i) For stacks in existence on January 12, 1979, and for which the owner or operator had obtained all applicable permits or approvals required under 40 CFR parts 51 and 52.

$$H_g = 2.5H,$$

provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation:

(ii) For all other stacks,

$$H_g = H + 1.5L$$

where

H_g =good engineering practice stack height, measured from the ground-level elevation at the base of the stack,

H =height of nearby structure(s) measured from the ground-level elevation at the base of the stack.

L =lesser dimension, height or projected width, of nearby structure(s)

provided that the EPA, State or local control agency may require the use of a field study or fluid model to verify GEP stack height for the source; or

(3) The height demonstrated by a fluid model or a field study approved by the EPA State or local control agency, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features.

(jj) *Nearby* as used in §51.100(ii) of this part is defined for a specific structure or terrain feature and

(1) For purposes of applying the formulae provided in §51.100(ii)(2) means that distance up to five times the lesser of the height or the width dimension of a structure, but not greater than 0.8 km ($\frac{1}{2}$ mile), and

(2) For conducting demonstrations under §51.100(ii)(3) means not greater than 0.8 km ($\frac{1}{2}$ mile), except that the portion of a terrain feature may be considered to be nearby which falls within a distance of up to 10 times the maximum height (H_t) of the feature, not to exceed 2 miles if such feature achieves a height (H_t) 0.8 km from the stack that is at least 40 percent of the GEP stack height determined by the formulae provided in §51.100(ii)(2)(ii) of

this part or 26 meters, whichever is greater, as measured from the ground-level elevation at the base of the stack. The height of the structure or terrain feature is measured from the ground-level elevation at the base of the stack.

(kk) *Excessive concentration* is defined for the purpose of determining good engineering practice stack height under §51.100(ii)(3) and means:

(1) For sources seeking credit for stack height exceeding that established under §51.100(ii)(2) a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, and eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and which contributes to a total concentration due to emissions from all sources that is greater than an ambient air quality standard. For sources subject to the prevention of significant deterioration program (40 CFR 51.166 and 52.21), an excessive concentration alternatively means a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, or eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and greater than a prevention of significant deterioration increment. The allowable emission rate to be used in making demonstrations under this part shall be prescribed by the new source performance standard that is applicable to the source category unless the owner or operator demonstrates that this emission rate is infeasible. Where such demonstrations are approved by the authority administering the State implementation plan, an alternative emission rate shall be established in consultation with the source owner or operator.

(2) For sources seeking credit after October 11, 1983, for increases in existing stack heights up to the heights established under §51.100(ii)(2), either (i) a maximum ground-level concentration

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due in whole or part to downwash, wakes or eddy effects as provided in paragraph (kk)(1) of this section, except that the emission rate specified by any applicable State implementation plan (or, in the absence of such a limit, the actual emission rate) shall be used, or (ii) the actual presence of a local nuisance caused by the existing stack, as determined by the authority administering the State implementation plan; and

(3) For sources seeking credit after January 12, 1979 for a stack height determined under §51.100(ii)(2) where the authority administering the State implementation plan requires the use of a field study or fluid model to verify GEP stack height, for sources seeking stack height credit after November 9, 1984 based on the aerodynamic influence of cooling towers, and for sources seeking stack height credit after December 31, 1970 based on the aerodynamic influence of structures not adequately represented by the equations in §51.100(ii)(2), a maximum ground-level concentration due in whole or part to downwash, wakes or eddy effects that is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.

(l)-(mm) [Reserved]

(nn) Intermittent control system (ICS) means a dispersion technique which varies the rate at which pollutants are emitted to the atmosphere according to meteorological conditions and/or ambient concentrations of the pollutant, in order to prevent ground-level concentrations in excess of applicable ambient air quality standards. Such a dispersion technique is an ICS whether used alone, used with other dispersion techniques, or used as a supplement to continuous emission controls (i.e., used as a supplemental control system).

(oo) *Particulate matter* means any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers.

(pp) *Particulate matter emissions* means all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by applicable reference methods, or an equivalent or alternative method, spec-

ified in this chapter, or by a test method specified in an approved State implementation plan.

(qq) *PM₁₀* means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method based on appendix J of part 50 of this chapter and designated in accordance with part 53 of this chapter or by an equivalent method designated in accordance with part 53 of this chapter.

(rr) *PM₁₀ emissions* means finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal 10 micrometers emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternative method, specified in this chapter or by a test method specified in an approved State implementation plan.

(ss) *Total suspended particulate* means particulate matter as measured by the method described in appendix B of part 50 of this chapter.

[51 FR 40661, Nov. 7, 1986, as amended at 52 FR 24712, July 1, 1987; 57 FR 3945, Feb. 3, 1992; 61 FR 4590, Feb. 7, 1996; 61 FR 16060, Apr. 11, 1996; 61 FR 30162, June 14, 1996; 61 FR 52850, Oct. 8, 1996]

§51.101 Stipulations.

Nothing in this part will be construed in any manner:

(a) To encourage a State to prepare, adopt, or submit a plan which does not provide for the protection and enhancement of air quality so as to promote the public health and welfare and productive capacity.

(b) To encourage a State to adopt any particular control strategy without taking into consideration the cost-effectiveness of such control strategy in relation to that of alternative control strategies.

(c) To preclude a State from employing techniques other than those specified in this part for purposes of estimating air quality or demonstrating the adequacy of a control strategy, provided that such other techniques are shown to be adequate and appropriate for such purposes.

(d) To encourage a State to prepare, adopt, or submit a plan without taking into consideration the social and economic impact of the control strategy

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